

RF exposure information

Product information from applicant

Applicant	:	freecle Inc.
Applicant address	:	rainbowbldg 1F, 2-20-13 Shimomeguro, Meguro-Ku, Tokyo, 153-0064, Japan
FCC ID	:	2BMFO-FREECLE
Model	:	glass-freecle
Operating frequency range	:	2402 - 2480 MHz
Peak output power (Measured)	:	0.46dBm @2402MHz, 0.38dBm @2441MHz, 0.06dBm @2480MHz (DH5) 0.66dBm @2402MHz, 0.29dBm @2441MHz, 0.32dBm @2478MHz (2DH5) 0.41dBm @2402MHz, 0.34dBm @2441MHz, 0.37dBm @2478MHz (3DH5)
Rated RF output power (Declared by the applicant)	:	2.5 mW or less

Analysis for portable use

[For FCC]

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW), in accordance with KDB 447498 D04 Interim General RF Exposure Guidance v01.

$$P_{th}(mW) = ERP_{20cm}(d/20\text{ cm})^x \quad (B)$$

where

$$ERP_{20cm}(mW) = 3060$$
$$x = -\log_{10} \left(\frac{60}{ERP_{20cm}\sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm).

Using d as 0.5 (cm) and f as 2.48 (GHz), the threshold Pth is calculated to be 2.72 mW.

On the other hand, the rated RF output power with maximum tune-up tolerance is 2.5 mW, which is lower than the above threshold Pth (2.72 mW).

Therefore, the product meets the SAR-based exemption and no further evaluation is required.

[For ISED]

Devices operating at or below the applicable output power levels (adjusted for tune-up tolerance) specified in table 11, based on the separation distance, are exempt from SAR evaluation.

Table 11: Power limits for exemption from routine SAR evaluation based on the separation distance

Frequency (MHz)	≤ 5 mm (mW)	10 mm (mW)	15 mm (mW)	20 mm (mW)	25 mm (mW)	30 mm (mW)	35 mm (mW)	40 mm (mW)	45 mm (mW)	> 50 mm (mW)
≤ 300	45	116	139	163	189	216	246	280	319	362
450	32	71	87	104	124	147	175	208	248	296
835	21	32	41	54	72	96	129	172	228	298
1900	6	10	18	33	57	92	138	194	257	323
2450	3	7	16	32	56	89	128	170	209	245
3500	2	6	15	29	50	72	94	114	134	158
5800	1	5	13	23	32	41	54	74	102	128

When the operating frequency of the device is between two frequencies located in table 11, linear interpolation is applied for the applicable separation distance. The product can operate at 2480MHz, then the power limits for 2480MHz and ≤5 mm separation distance is interpolated to be 2.97 mW.

On the other hand, the rated RF output power with maximum tune-up tolerance is 2.5 mW, which is lower than the above power limit (2.97 mW).

Thus the product meets the exemption from the routine evaluation limits in Section 6.3 of RSS-102 Issue 6, and SAR evaluation is not required.